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Legal Department, 51U-PD
Intellectual Property Administration
P.O. Box 58043
Santa Clara, CA 95052-8043

EXAMINER

DIVINE, LUCAS

ART UNIT	PAPER NUMBER
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2624

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DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,201

Applicant(s)

MONTIERTH ET AL.

Examiner

Lucas Divine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

100, closest description found on page 4 line 3; and

124, closest description found on page 4 line 5.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **226** as found on page 4 line 21 and page 5 line 9.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: reference characters "220" on page 4 line 16 and "200" on line 17 have both been used to designate the **demonstration cable**. Appropriate correction is required.

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4. The disclosure is objected to because of the following informalities: Page 2 line 27 states '**demonstration contains**' which should read as understood by the examiner as '**demonstration cable contains**'. Appropriate correction is required.

5. The disclosure is objected to because of the following informalities: the claims are teaching '**a socket**' without a description in the specification of what the socket is or where it is located within the system. There is no discussion of the nature or use of a socket in the specification. Appropriate correction is required.

Claim Objections

6. Claim 4 is objected to because of the following informalities: the first line of claim 4 states a '**demonstration**' which should be '**demonstration system**' as indicated by its dependence from the demonstration system of claim 1. Appropriate correction is required.

7. Claim 11 is objected to because of the following informalities: the method claim does not include appropriate step language. The claimed method would be more complete if the word 'comprising' was replaced with 'comprising the steps of.' Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 1 – 6 and 10 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6753903) and Farago (US 6747752).

Regarding claim 1, Lin teaches **for a peripheral** (Fig. 1 ref. no. 3) **that during normal operation, connects to a host computer** (camera 2 performs the actions of a host computer – wherein the camera is a computing alternative to a personal computer, both acting as hosts, col. 2 line 41 – and is replaceable with other computing devices as obvious to one of ordinary skill in the art) **through a cable containing a controller** (cable 1, 4, 5, that contains controller 11), **a demonstration system comprising:**

a controller (controller 11, discussed in col. 3 lines 14-18) **of a type employed in the cable that connects the peripheral to the host computer during normal operation; and**

a memory that is external to the peripheral (removable memory 13), **contains data, and is coupled to the controller to enable the controller to read the data from the memory** (see functional lines in Fig. 1 coupling memory unit 13 with controller 11, wherein the controller can read data from the memory as discussed in col. 4 line 14) **for the peripheral to perform without being connected to the host computer** (col. 3 lines 22-29 teach transferring data from the external memory device instead being connected to host computing device 2 – see note above for computing device 2).

While Lin teaches a peripheral controlling system for use without a host machine, Lin does not specifically teach the memory to contain **demonstration data for controlling the peripheral to perform a demonstration.**

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Farago teaches a peripheral controlling system for use without a host machine including a memory containing **demonstration data for controlling the peripheral to perform a demonstration** as discussed in col. 2 lines 50-67 and shown in Fig. 1.

It would have been obvious to one of ordinary skill in the art to add the demonstration data for performing peripheral demonstrations of Farago into the peripheral controlling system of Lin to provide a system where a cable could control the printer alone or the printer could be controlled by the host through the cable. The motivation for doing so would have been to provide a salesperson more options in demonstrating products. For example, if space or mobility is an issue, a memory card can be loaded in the cable of Lin and the peripheral can be demonstrated. Alternatively, if the salesperson had a lot of data and printing options they wanted to show off, there could be too much data for a memory card to contain or too much functionality for the cable controller to compute. In such a case a host computing device would be desirable in the demonstration of peripherals and the cable could just be used for data transfer and formatting.

Note: The applicant states: 'a cable containing a controller' thus defining a cable as cable (a bound or sheathed group of mutually insulated conductors) + functional circuitry. Lin teaches cables 4 & 5 containing adaptive circuitry 1. Therefore, the cable + functional circuitry of Lin as well as other cables + functional circuitry read on applicant's described definition of a 'cable.'

Regarding claim 2, which depends from claim 1, Lin further teaches the **peripheral is a printer** (Fig. 1 ref. no. 3).

Regarding claim 3, which depends from claim 2 as it depends from claim 1, Lin further teaches that:

the controller in the cable operates to format data from the host computer for a print operation of the printer (controller 11 utilizes format controller 10 as shown in Fig. 2, wherein data coming from the computing device 2 is formatted and sent to the printer 3 as discussed in col. 3 lines 49-52); **and**

the controller in the demonstration system operates to format data from the memory as required for the print operation of the printer (controller 11 utilizes format controller 10 as shown in Fig. 2, wherein the DMA controller 27 receives information from the memory 13 and the format controller 10 formats and sends said information to the printer 3 as discussed in col. 5 lines 13-19).

Regarding claim 4, which depends from claim 1, Lin further teaches

a socket having a pin layout for connection to the printer (Fig. 1 printer port 15, wherein the socket is not described in the specification, as stated in disclosure objection above, Examiner assumes the said socket to be a USB port for connection to the printer);

a first enclosure containing the controller (as symbolized by the dotted line around adaptive controller unit 1); **and**

a second enclosure containing the memory (removable flash memory is known to have a plastic casing enclosure around the memory cells for protection).

Regarding claim 5, which depends from claim 4 as it depends from claim 1, Lin teaches that **the socket, the first enclosure, and the second enclosure are substantially identical to matching elements of the cable that connects the peripheral to the host computer during the normal operation** as evident from Fig. 1, wherein the same components are used for both normal operation and just utilizing the external memory.

Regarding claim 6, which depends from claim 1, Lin teaches the memory to be flash memory, which is **non-volatile memory**.

Regarding claim 10, which depends from claim 1, Farago further teaches that **the external memory further comprises demonstration code that the controller executes**. Executable code is included to instruct the controller to perform formatting and sending of the data to the peripheral. This code is stored in programmable memory 1 shown in Fig. 1 along with other program code for controlling the printer demonstration as discussed in col. 2 lines 50-55.

Regarding claim 11, the structural elements of Lin and Farago teach the method steps of claim 11 as shown in the rejection of claim 1 and further discussed here. Lin and Farago teach:

connecting to the printer a cable containing a controller that is of a type used in a printer cable that connects the printer to a host computer during normal operation of the printer (the step of connecting is taught in the connection of the cable 5 to the printer 3 of Lin, the cable type is discussed in the rejection of claim 1 above); **and**

storing demonstration data in a memory (taught in the demonstration data of Farago being stored in the removable memory 13 of Lin as discussed in the rejection of claim 1); **and**

connecting the memory to the cable to enable the controller to read the demonstration data from the memory and format the data for the printer (shown in the insertion of removable flash memory 13 into the adaptive cable [ref. nos. 1, 4, 5]).

Regarding claim 12, which depends from claim 11, Lin further teaches that:

the controller has a computer interface (Fig. 2 ref. no. 20, wherein the interface engine interfaces to the computer as discussed in col. 3 lines 53-61) **and a memory interface** (Fig. 2

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ref. no. 27, wherein DMA controller interfaces to the controller to access flash memory card data as discussed in col. 4 lines 13-19),

the computer interface is connected through the printer cable to the host computer during normal operation (shown in cable connection 4 which connects the adaptive cable to the computing unit 2 in Fig. 1), **and**

connecting the memory comprises connecting the memory through the cable to the memory interface (the insertion of the memory in the adaptive cable connects the memory to the cable and thus to the memory interface 27 through connections 16 & 17).

Regarding claim 13, which depends from claim 12 as it depends from claim 11, Lin teaches:

the computer interface implements a protocol for serial communication with the host computer (interface 20 is stated as a USB [protocol] Serial Interface Engine) **and**

the memory interface implements an interface for access in a non-volatile memory (memory 13 is Removable Flash Memory which is non-volatile).

Regarding claim 14, which depends from claim 13 as it depends from claims 12 and 11, Lin further teaches:

the computer interface implements the protocol required for connection to a universal serial bus (USB Serial Interface Engine 20), **and**

the memory interface implements accesses to a serial memory (Lin teaches the DMA controller 27 to also access the System Firmware Memory 12 which is implied to be a EPROM as conventional to firmware through connection 17 which could also be an EEPROM as obvious to one of ordinary skill in the art).

Regarding claim 15, which depends from claim 12 as it depends from claim 11, Lin teaches that **the memory interface implements an interface for access in a non-volatile memory** (memory 13 is Removable Flash Memory which is non-volatile).

9. Claims 7 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin and Farago as applied to claims 1 – 6 and 10 – 15 above, and further in view of Wett (US 5872945).

Regarding claim 7, which depends from claim 1, Lin and Farago teach all of the limitations of parent claim 1.

While Lin teaches a **first mode wherein the controller boots from internal memory** (col. 4 lines 40-46 teach the internal firmware memory running the initialization program when the system is booted), Lin does not specifically teach a **second mode wherein the controller boots from the external memory**.

Wett teaches a **second mode wherein the controller boots from the external memory**. Col. 1 lines 48-50 teach a **boot mode where a self-contained processor system boots from an external memory**; abstract lines 17-20 teach two boot modes, with booting from an internal memory being the first, and booting from an external memory being the second; and col. 5 lines 61-65 further discuss boot modes from internal and external memories, wherein the signal INT/EXT 425 determines said boot mode.

Wett is analogous art to that of Lin and Farago because it is a self-contained processor system with a controller, internal memory, and external memory.

It would have been obvious to one of ordinary skill in the art to add the second boot mode of Wett into the external memory of the demonstration system of Lin and Farago. The

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motivation for doing so would have been to make the system for flexible and customizable. By adding the second boot mode, a demonstrator has more flexibility in accessing and changing the control of the adaptive cable controller because of being able to boot from different external memories, thus allowing the controller system to perform different types of demonstrations. Further, if a store chain had a specific mode they wanted the demonstration device to run in, the factory could still produce the devices the same, and the store chain could get bootable external memories to use for their specific purpose. Other motivations for using an external boot memory are well known in the art.

Regarding claim 8, which depends from claim 7, Wett further teaches **circuitry connected to the controller to cause the controller to operate only in the second mode.**

Configuration data in memory 400 is circuitry that determines which mode the device is booted from (col. 5 lines 59-67). Thus, the configuration data can be set to cause the controller to operate only in the second mode.

Regarding claim 9, which depends from claim 7, Farago further teaches that **the external memory further comprises demonstration code that the controller executes.** Executable code is included to instruct the controller to perform formatting and sending of the data to the peripheral. This code is stored in programmable memory 1 of Farago shown in Fig. 1 along with other program code for controlling the printer demonstration as discussed in col. 2 lines 50-55.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US-6799157 Kudo et al. 9-28-2004: teaches the use of multiple boot modes in a microprocessor system, including from internal and external memories.

US-6370603 Silverman et al. 4-9-2002: teaches a "smart" cable including memory, USB interface, a controller, optional external memory, and an EPROM.

US-6134669 Farago et al. 10-17-2000: teaches a self contained printer driver with control and memory for printer demonstrations.

US-6042278 Spencer et al. 3-28-2000: teaches a printer demonstration apparatus including a controller and memory with demonstration data.

Newton's Telecom Dictionary, page 337: teaches firmware to usually be stored on an EPROM.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 703-306-3440. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucas Divine
Examiner
Art Unit 2624

ljd



DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600